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# THE EFFECTS OF CLIENT GOVERNANCE MECHANISMS AND RELATIONAL EXCHANGE ON IS OUTSOURCING EFFECTIVENESS

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# THE EFFECTS OF CLIENT GOVERNANCE MECHANISMS AND RELATIONAL EXCHANGE ON IS OUTSOURCING EFFECTIVENESS

*Completed Research Paper*

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## Abstract

*Although recent years have seen enormous growth in the nature and extent of IT outsourcing, organizations still struggle with factors that contribute to effective outsourcing. Drawing upon two theoretical lenses – formal and informal governance mechanisms and relational exchange theory – this study explores the relationships between four dimensions of governance (contractual governance, structural governance, extra-contractual governance, relational governance), two characteristics of the relational exchange (joint commitment, relationship trust) and four dimensions of IS outsourcing effectiveness (execution-level effectiveness, business benefits, functional benefits, economic benefits). Data collected from a field survey of 141 IS managers from client firms with application outsourcing arrangements are used to test these relationships. Results from PLS SEM analysis indicate that the four dimensions of governance mechanisms have different positive influences on the individual dimensions of outsourcing effectiveness, with joint commitment and relationship trust partially mediating the relationships. By modeling formal and informal governance mechanisms as antecedents to relational exchange, and by disaggregating the effectiveness dimensions, the findings from this study extend prior research and have important implications for researchers and practitioners alike.*

**Keywords:** IS outsourcing, Governance mechanisms, Relational exchange theory

## Introduction

Recent years have seen enormous growth in the nature and extent of the IT outsourcing industry. Due to the availability of cost-effective IT expertise, there has been a dramatic increase in the number of organizations considering different types of outsourcing arrangements including strategic partnerships and selective outsourcing, both domestic and offshore outsourcing (Rai et al., 2009). Far from being considered as just providing economic benefits to the client firm, the focus has now shifted to achieving strategic advantages through outsourcing (Feeny and Willcocks, 2005). However, notable problems in outsourcing arrangements are still being reported, even among top firms (Forrester, 2010).

One reason for the struggle to achieve outsourcing effectiveness can be attributed to the lack of governance capabilities in the client organization. Differences in resource endowments and investments across firms can cause firm-level differences in their outsourcing governance capabilities. This in turn can impact their success in outsourcing arrangements (Ethiraj et al., 2005; Feeny and Willcocks, 1998; Feeny and Willcocks, 2005; Goo et al., 2009; Levina and Ross, 2003). Extant research suggests that successful client firms utilize a combination of governance mechanisms in their outsourcing arrangements, including contractual and relational mechanisms. Some researchers have also provided evidence for these types of mechanisms to be complements, whereas others have argued for their substitution effects (see Lacity et al., 2009, for a review).

Although this study does not directly address the complement versus substitute debate, a key working assumption of our own study is that organizations adopt *both formal and informal* governance mechanisms. As defined by Galbraith (1994) and others, formal mechanisms involve legitimized, more costly structures (such as committees and integrator roles) whereas informal mechanisms are interpersonal, or social, mechanisms designed to increase the likelihood that problem-solving will occur outside of formal structures (Brown, 1999). Both formal and informal governance mechanisms have been studied in the context of outsourcing management by prior researchers (e.g., Goo et al., 2009; Poppo and Zenger, 2002). While these studies have contributed to our understanding of governance mechanisms beyond contracts that are utilized in outsourcing, other key dimensions relating to formal structures (such as establishing a project management office), and flexibility in contracts (such as requesting additional work beyond contractual terms), have not been given adequate attention. These aspects are important because managing the arrangement depends not only on the terms in the contract, but also on establishing appropriate oversight mechanisms, while at the same time enabling some flexibility in the implementation of the contract.

There is also a gap in our understanding of the potential effects of different mechanisms on outsourcing outcomes. Many prior studies have not included an outcome variable, and others that include outsourcing effectiveness have typically modeled it as a one-dimensional construct. In this study, we explore the direct and indirect impacts of formal and informal governance mechanisms on four different dimensions of outsourcing effectiveness from a client perspective. Our overall research question is:

1) What are the impacts of the different dimensions of client governance mechanisms on the different dimensions of IS outsourcing effectiveness?

Further, as both client and vendor firms invest in relationship building, key elements of the relational exchange – such as trust and commitment – can become manifest (Goles and Chin, 2002). Recent research shows that formal contractual mechanisms can impact both trust and commitment in outsourcing (Goo et al., 2009), and a client's trust in a vendor can positively impact outsourcing project success (Rai et al., 2009). Studies of interorganizational relationships also provide empirical evidence of the positive effects of trust on alliance performance (Sarkar et al., 2001). Taken together, these results imply that trust can be a mediator between governance mechanisms and outsourcing effectiveness. This leads to a second research question:

2) Does relational exchange mediate the relationship between client governance mechanisms and IS outsourcing effectiveness?

This paper is organized as follows. We first provide the theoretical background for our study. This is followed by the description of the research model and hypotheses. We then present the methodology used in our study, followed by a discussion of the results. We conclude by stating the limitations and implications of our study.

## Theoretical Background

In this study, we draw upon two theoretical lenses, namely the theory of formal and informal governance mechanisms (e.g., Galbraith, 1994) and relational exchange theory (Dwyer et al., 1987; Lambe et al., 2000; Sarkar et al., 2001), to build on and extend prior research on governance mechanisms and relational exchange in IS outsourcing (Poppo and Zenger, 2002; Goo et al., 2009).

Our study attests to the view that a portfolio of both formal and informal governance mechanisms are essential in application development outsourcing arrangements, and focuses on unlocking the underlying dimensions of governance mechanisms and their direct impacts. Our fundamental premise is that although contract facilitation and monitoring are fundamental capabilities in outsourcing (Feeny and Willcocks, 1998), contractual stipulations only establish the *necessary* condition (i.e., necessary but not sufficient) for successful IS outsourcing (Dyer and Singh, 1998). This is because, the uncertainties in information technology projects makes it difficult to provide all the requisite terms as part of a contract (Lacity and Willcocks, 1995; Venkatraman and Loh, 1994). Therefore, investing in other formal governance mechanisms such as formal committees, as well as informal mechanisms, such as collocation and social meetings, are requisites for success (Galbraith, 1994). In addition, IS outsourcing involves everyday interactions between the client and vendor that can extend beyond contractual obligations (Choudhry and Sabherwal, 2003; Kirsch et al., 2002) and contribute to the relational exchange (Goles and Chin, 2002).

Relational exchange theory (Dwyer et al., 1987; Lambe et al., 2000) states that in relationships that are considered mutually beneficial, the firms involved *'consider the relationship important in and of itself, and devote resources towards its development and maintenance'* (Goles and Chin, p. 228). As parties in a relational exchange, the client and the vendor need to invest in effective means of managing their relationship. This can take on various forms including exchange and sharing of ideas about the project, committing to the relationship, show interest in a long-term relationship through mutual trusting beliefs, invoking well-established rules for conflict resolution, etc. (Goles and Chin, 2002). We posit that effective utilization of key elements of relational exchange forms the basis for obtaining benefits from outsourcing. In this regard, we differ from earlier studies in that we model trust and commitment as traits of the relational exchange between client and vendor, and focus on specific governance mechanisms that enhance these aspects and their mediating effects on individual outsourcing outcomes.

## Research Model and Hypotheses

The research model for this study is shown in Figure 1. This study focuses only on governance mechanisms within application development outsourcing arrangements. We define below each of these constructs, beginning with the four dimensions of our dependent variable, IS outsourcing effectiveness, followed by the hypotheses for each relationship in the model.

### *IS Outsourcing Effectiveness*

We define outsourcing effectiveness as consisting of two aspects, namely a) execution-level effectiveness and b) strategic-level effectiveness. Execution level effectiveness refers to the extent to which the goals specified in the outsourcing contract are realized—i.e., budget, schedule, and quality considerations (Koh et al., 2004) and overall satisfaction (Poppo and Zenger, 2002). Strategic-level effectiveness refers to the extent to which the strategic goals of the outsourcing arrangement are realized (Grover et al., 1996). We disaggregate strategic-level effectiveness into three dimensions: business benefits, functional benefits and economic benefits to the client (Lee et al., 2004). Business benefits refer to the extent to which the client is able to refocus on its business activities, as a result of the outsourcing arrangement. Functional benefits refer to the extent to which the client has acquired access to IS technological resources. Economic benefits refer to the extent to which the client has decreased its operational expenses through the outsourcing arrangement. Hypotheses based on the model explore the impacts of formal and informal governance, and relational exchange factors, on the different dimensions of effectiveness.

### *Client Governance Mechanisms*

Consistent with Galbraith (1994) and others, we use the terms 'formal' and 'informal' governance mechanisms to refer to two types of governance mechanisms used in IS outsourcing. Formal governance mechanisms refer to the legitimized governance mechanisms used in the arrangement, modeled as consisting of two dimensions, namely contractual governance and structural governance. Informal governance mechanisms refer to interpersonal governance mechanisms (i.e., the 'soft' side) used in the arrangement, modeled as extra-contractual governance and relational governance. Each is described below.

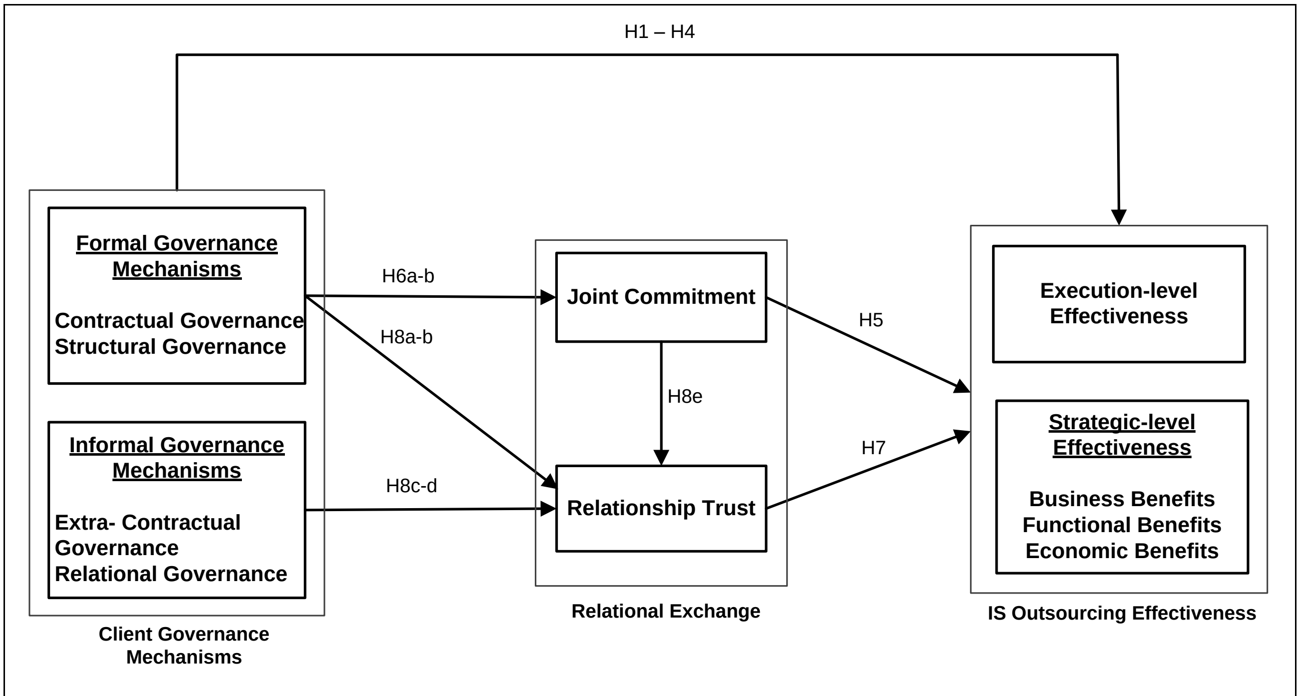


**Figure 1. Research Model and Hypotheses**

### Contractual Governance

Prior literature has recognized contractual facilitation, i.e., the design and negotiation of outsourcing contracts, to be a key capability (Feeny and Willcocks, 1998; Goo et al., 2009; Gopal et al., 2003). Contracts not only provide a mutually agreed upon platform specifying a range of accepted behaviors in an outsourced relationship, but also involve formal stipulations for effective utilization of resources. They enumerate each partner's roles, IS resource performance expectations, as well as dispute resolution mechanisms. They also protect the client from a vendor's opportunistic behavior through specification of penalties for underperformance (Aubert et al., 2003; Goo et al., 2009). By reducing potential uncertainties and inefficiencies in the arrangement (Aubert et al., 2003), contractual governance has a positive impact on the overall effectiveness of the outsourcing arrangement.

H1a: Contractual Governance will have a positive impact on execution-level effectivenesss
H1b: Contractual Governance will have a positive impact on strategic-level effectiveness

### Structural Governance

Assigning integrators and forming governance committees in an outsourcing relationship are standard practices in outsourcing to build close contact and establish ties between the client and vendor (Lacity and Willcocks, 2000; Poppo and Lacity, 2002). Structural mechanisms such as establishing teams, tasks forces, and committees (Galbraith, 1994), inter-firm coordination through periodic reviews and meetings, and the assignment of onsite/offshore managers are formal mechanisms for shared decision making. By providing formal systems for conflict resolution relying on two-way communication and collaborative problem solving, structural governance improves outsourcing effectiveness.

H2a: Structural Governance will have a positive impact on execution-level effectiveness
H2b: Structural Governance will have a positive impact on strategic-level effectiveness

**Extra-contractual Governance**

While formal contracts provide a means to reduce risk and uncertainty in outsourcing arrangements, they are fundamentally incomplete due to their inability to cover future contingencies (Lacity and Willcocks, 1995). In addition to enforcing the formal contracts, clients can employ extra-contractual governance, such as requesting for flexibility in vendor work times, even though the contract stipulates otherwise. Using such informal governance mechanisms is a less costly alternative to formal mechanisms (Galbraith, 1994). We postulate that extra-contractual governance acts as a self-enforcing safeguard, thereby positively increasing outsourcing effectiveness.

H3a: Extra-contractual Governance will have a positive impact on execution-level effectiveness
H3b: Extra-contractual Governance will have a positive impact on strategic-level effectiveness

**Relational Governance**

While extra-contractual governance enables flexibility beyond contractual terms, relational governance is based largely on trust-forming behaviors and social identification (Dyer and Singh, 1998). It includes interpersonal mechanisms (Brown, 1999; Galbraith, 1994) such as collocation, unofficial review meetings, training and networking sessions. It also helps build relationships based on norms of flexibility, solidarity and information transfer in the arrangement (Poppo and Zenger, 2002). Therefore, relational governance mechanisms, while exogenous to contracts and formal hierarchies, facilitate building relationships between the client and the vendor (Goo et al., 2009), and have a positive impact on outsourcing effectiveness.

H4a: Relational Governance will have a positive impact on execution-level effectiveness
H4b: Relational Governance will have a positive impact on strategic-level effectiveness

## *Relational Exchange*

We model two factors, namely joint commitment and relationship trust, as two aspects of the relational exchange. We discuss these constructs and their relationships with formal and informal mechanisms below, followed by relevant hypotheses.

**Joint Commitment**

Within the context of interorganizational relationships, commitment is defined as the extent to which two firms foresee the relationship as long-term (Dwyer et al., 1987). Reciprocal commitment provides the basis for both firms to shed opportunistic behavior, and to engage in mutually beneficial behavior (Sarkar et al., 2001). As commitment fosters a sense of collective responsibility for the outsourcing arrangement, client and vendor work toward improving the outcome of the arrangement, thereby positively influencing outsourcing outcomes (Lee and Kim, 1999).

H5a: Joint commitment has a positive impact on execution-level outsourcing effectiveness.
H5b: Joint commitment has a positive impact on strategic-level outsourcing effectiveness.

Both formal governance mechanisms can have a positive impact on joint commitment. Contractual governance establishes the common set of conditions on which the quality of service provision is determined (Choudhury and Sabherwal, 2003; Fitzgerald and Willcocks, 1994; Loh, 1994). Meeting the contractual obligations forms the basis for client satisfaction with vendor services (Grover et al., 1996), and can counter the negative opportunistic behaviors in the arrangement. Similarly, since structural governance provides for oversight and monitoring, it can help curtail the pursuit of individual interests either by the vendor or the client during the arrangement. Since informal governance mechanisms are used to build relationships, rather than to curtail opportunism, they are not hypothesized to affect joint commitment in this study.

H6a: Contractual governance will have a positive impact on joint commitment.
H6b: Structural governance will have a positive impact on joint commitment.

**Relationship trust**

In the context of interorganizational relationships, trust refers to the extent to which the firms share trusting beliefs about each other (Dhanaraj et al., 2004; Sarkar et al., 2001). Trust in an outsourcing relationship is defined by Goo et al. (2009) as *'one party's belief that its requirements will be fulfilled through future actions undertaken by the other party'* (p. 126). As an important component of relational exchange, trust acts a regulating mechanism in the arrangement, improving the harmony in the relationship (Goles and Chin, 2002). In this study, we use the term 'relationship trust' to capture the trust between the client and the vendor. Relationship trust enhances the working relationship, and provides the basis for mutual understanding between the firms. The client and vendor firms stand to benefit from better coordination, interactions, and understanding in the relationship, thereby positively influencing outsourcing effectiveness.

H7a: Relationship trust will have a positive impact on execution-level outsourcing effectiveness.
H7b: Relationship trust will have a positive impact on strategic-level outsourcing effectiveness.

Contractual and structural governance can have a positive impact on relationship trust. They establish the boundary conditions for the outsourcing engagement. They provide the formal rules by which the arrangement must progress (Feeny and Willcocks, 1998). Through repeated interactions, as the client firm demonstrates high levels of formal governance, the client and vendor form trusting beliefs of one another. Extra-contractual governance and relational governance establish cooperative behavior in both partners (Poppo and Zenger, 2002). They foster a culture of social interactions where each partner understands the cultural norms and beliefs of each other. Such interpersonal interactions can enhance relationship trust between the two partners. In addition, we postulate that by committing to the relationship through curtailing opportunistic behaviors in the arrangement, relationship trust between the client and vendor is positively impacted.

H8a: Contractual governance will have a positive impact on relationship trust.
H8b: Structural governance will have a positive impact on relationship trust.
H8c: Extra-contractual governance will have a positive impact on relationship trust.
H8d: Relational governance will have a positive impact on relationship trust.
H8e: Joint commitment will have a positive impact on relationship trust.

## Methodology

A field survey methodology was selected for this study with IS managers responsible for the application development outsourcing arrangement in client organizations as the targeted population. The data was collected as part of a larger study capturing various aspects of client-vendor relationships. New items were created for all four governance dimensions. Some contractual governance and relational governance measures were adapted and extended from prior research (Poppo and Zenger, 2002) and were refined based on feedback from field experts. Structural governance and extra-contractual governance measures were modeled from interview data and feedback from field experts. The joint commitment and relationship trust measures were adapted primarily from two sources: Dhanaraj et al. (2004) and Sarkar et al. (2001). The measures for strategic-level IS outsourcing effectiveness were adapted from Lee et al.'s (2004) study, in which Grover et al.'s (1996) one-dimensional construct was modeled as three dimensions: business benefits, functional benefits and economic benefits. The execution-level effectiveness measures were adapted and extended from Koh et al. (2004) and Poppo and Zenger (2002). To control for arrangement and firm-level differences, we also modeled three control variables in the study: duration of the outsourcing arrangement in years, prior experience of the client with the vendor as a 1-0 variable, and client size in terms of number of employees. Some measures were also reworded based on results from pilot testing with a convenience sample of 22 respondents.

### *Survey Administration*

IS managers who are members of the Project Management Institute-Information Systems Specific Interest Group (PMI-ISSIG) were used as the sample for this study. To satisfy the anonymity requirement at PMI-ISSIG, only an online survey was conducted. Respondents were asked to respond to all survey questions about the arrangement they were *most familiar* with, irrespective of the size or outcome of the arrangement (Pavlou and El Sawy, 2006). To facilitate accurate recall, it was required that the outsourcing arrangement be one that was either completed within the last year, or was in-progress but with at least one major milestone completed. A total of 141 useful responses were obtained. The demographic details indicate that the respondents were: 67% male, 33% female; 76% senior IS managers such as at the level of directors, CIO, VP, and 24% IS managers. The median age for the respondents was between 40 and 50. The industry profile was as follows: 51 service firms, and 90 non-service firms.

**Table 1. Constructs, Measures and Loadings**

| Construct | Item | Loadings |
|---|---|---|
| Contractual Governance | We specify clearly various guidelines and specifications in the contract *(e.g., pricing, data protection, penalties, and termination)* | 0.775 |
| | We specify clearly service-level expectations and roles for each activity/project *(e.g., SOW - statement of work)* | 0.706 |
| | We monitor the outcomes at each stage of an activity/project | 0.776 |
| | We compare vendor's performance against standards in the contract | 0.868 |
| Structural Governance | We have well-established committees *(e.g., oversight committee, technical review committee)* for coordinating the arrangement | 0.798 |
| | We hold regular meetings with our vendor counterparts *(e.g., business executives, liaisons)* for discussing the arrangement progress | 0.712 |
| | We utilize well-defined techniques *(e.g., scorecards, matrices)* for tracking arrangement progress | 0.852 |
| | We have well-defined mechanisms *(e.g., escalation paths)* for resolving issues arising in the arrangement | 0.886 |
| Extra-Contractual Governance | <u>Even though they are beyond the terms of the contract, we potentially could …</u><br>…request flexibility from the vendor in meeting certain contractual conditions | 0.896 |
| | …suggest ad-hoc alterations in project scope and specifications to the vendor | 0.832 |
| | …request temporary assignment of additional vendor resources when needed | 0.807 |
| Relational Governance | We have <u>social</u> meetings and events with the vendor IS manager(s) and personnel | 0.804 |
| | We have <u>informal</u> review meetings with the vendor IS manager(s) and personnel | 0.736 |
| | We physically locate onsite vendor personnel right next to our own | 0.772 |
| | We extend important privileges to vendor personnel as we do for our personnel | 0.702 |
| Joint Commitment | In this arrangement, both firms are expected not to make demands that can seriously damage the interests of the other. | 0.906 |
| | In this arrangement, the firm with greater bargaining power is expected not to pursue its interests at all costs. | 0.897 |
| Relationship trust | Our firm and the vendor understand each other well. | 0.758 |
| | In our contacts with the vendor, we have never had the feeling of being misled. | 0.884 |
| | Our firm and the vendor have great trust in each other. | 0.930 |
| | Both firms know the weaknesses of the other, and do not take advantage of them. | 0.874 |
| Execution-level Effectiveness | Adherence to schedule | 0.747 |
| | Adherence to quality | 0.781 |
| | Expected deliverables | 0.929 |
| | Overall satisfaction | 0.984 |

| | | |
|---|---|---|
| Business Benefits | We have been able to refocus our core business | 0.985 |
| | We have been able to enhance our ability to respond to new business demands | 0.704 |
| Functional Benefits | We have been able to enhance our IS competence | 0.928 |
| | We have been able to increase access to IS skilled personnel | 0.857 |
| | We have been able to reduce the risk of IS technological obsolescence | 0.813 |
| Economic Benefits | We have been able to enhance economies of scale in IS human resources | 0.855 |
| | We have been able to increase control of IS expenses | 0.905 |
| | We have been able to decrease cost of products/services | 0.874 |

## Analysis and Results

PLS-Graph version 3.0 was used as the primary statistical analysis tool for the measurement model and structural model analyses. PLS-Graph has been accepted as an appropriate analytical technique for small–to-medium-sized samples (Chin and Newsted, 1999). To establish reliability, convergent validity and discriminant validity, the guidelines for conducting confirmatory factor analysis in PLS (Gefen and Straub, 2005) were followed. Item reliabilities were first established using the item loadings in the confirmatory factor analysis. All item loadings were significant ($t>1.96$) and above the acceptable threshold of 0.70 (Nunnaly, 1978), with AVE greater than 0.5 (Fornell and Larcker, 1981).

The item-to-construct correlations have to be largest for the intended construct, compared to the loadings for the other constructs (Gefen and Straub, 2005). This was established by comparing each row of the loadings, where the highest loading for each item is on the intended construct (see the Appendix). In addition, comparing the square root of the AVE values in the diagonal elements in Table 2, with the corresponding row and column off-diagonal elements, shows that all the diagonal values are greater than the corresponding off-diagonal elements (Fornell and Larcker, 1981), establishing discriminant validity.

**Table 2. Measurement Model Validation**

| | ICR | CGov | SGov | ECGov | RGov | Commit | Trust | ExecEff | BusEff | FuncEff | EconEff |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CGov** | 0.86 | **0.78** | | | | | | | | | |
| **SGov** | 0.89 | 0.62 | **0.83** | | | | | | | | |
| **ECGov** | 0.88 | 0.08 | 0.10 | **0.83** | | | | | | | |
| **RGov** | 0.84 | 0.14 | 0.20 | 0.31 | **0.75** | | | | | | |
| **Commit** | 0.90 | 0.33 | 0.36 | 0.09 | 0.20 | **0.90** | | | | | |
| **Trust** | 0.92 | 0.41 | 0.34 | 0.27 | 0.60 | 0.56 | **0.86** | | | | |
| **ExecEff** | 0.92 | 0.40 | 0.22 | 0.10 | 0.38 | 0.41 | 0.61 | **0.87** | | | |
| **BusEff** | 0.83 | 0.38 | 0.30 | 0.07 | 0.34 | 0.34 | 0.61 | 0.60 | **0.84** | | |
| **FuncEff** | 0.90 | 0.37 | 0.35 | 0.19 | 0.44 | 0.32 | 0.60 | 0.62 | 0.64 | **0.87** | |
| **EconEff** | 0.91 | 0.42 | 0.46 | 0.16 | 0.39 | 0.33 | 0.56 | 0.47 | 0.50 | 0.56 | **0.88** |

The structural model showing only the significant paths is as shown in Figure 2. Results indicate that execution-level effectiveness is significantly predicted by contractual governance ($b = 0.262$, $p < 0.05$), and relationship trust ($b=0.502$, $p<0.001$). Business benefits are significantly predicted by relationship trust ($b=0.513$, $p<0.001$). Structural governance significantly ($b = 0.252$, $p < 0.05$) predicts economic benefits from outsourcing. Relational governance has a positive effect on both functional benefits ($b=0.226$, $p<0.001$) and execution-level effectiveness ($b=0.204$, $p<0.01$). With respect to the relational exchange constructs, contractual governance significantly predicts relationship trust ($b=0.242$, $p<0.05$), while structural governance increases commitment ($b=0.248$, $p<0.05$). Extra-contractual governance increases relationship trust ($b=0.138$, $p<0.05$), and relational governance also has a positive impact on relationship trust (b=0.239, p<0.001). In addition, commitment also improves relationship trust (b=0.431, p<0.001). Of the three control variables used, duration of the contract significantly predicted functional benefits (b=0.13, p<0.05), while client size negatively influenced economic benefits (b=-0.163, p<0.05). We used the technique proposed by Liang et al. (2007) for common method bias analysis in PLS. We found that only a few items have significant loadings for the method factor. We found that, on average, the effect of the method loading and method variance were negligible in this study.

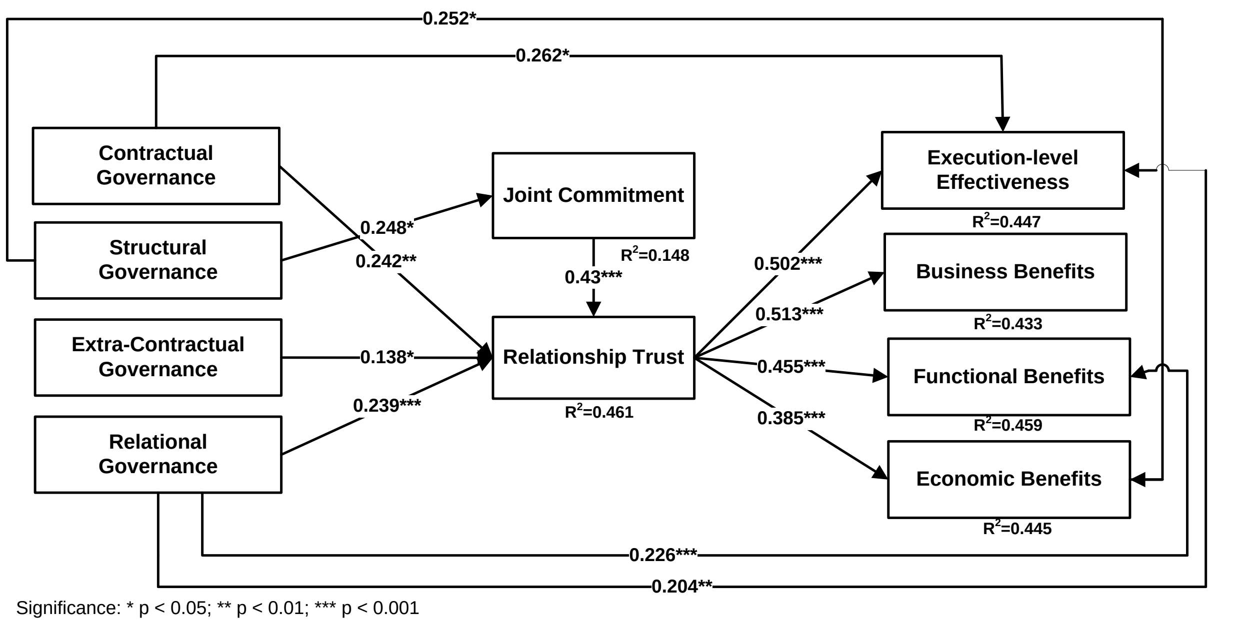


**Figure 2. Structural Model (with only significant paths)**

## Discussion

The purpose of this study (which was part of a larger study) is to understand the effects of client governance mechanisms and relational exchange on IS outsourcing effectiveness. We modeled four dimensions of outsourcing effectiveness. We categorized relationship trust and joint commitment as traits of relational exchange, while considering specific governance mechanisms as antecedents to relational exchange and outsourcing effectiveness dimensions. The first significant finding from this study relates to the influence of the different types of governance mechanisms on the four IS outsourcing effectiveness dimensions. These results confirm the view that both formal and informal governance mechanisms contribute to outsourcing effectiveness. However, none of the governance mechanisms directly impacted the business benefits from the outsourcing arrangement. In addition, all of the governance mechanisms impacted one of the two aspects of the relational exchange, and the perceived relationship trust between the vendor and client impacted all four dimensions of outsourcing effectiveness. We discuss these results below.

Contractual governance was found to significantly increase only execution-level effectiveness. This implies that for day-to-day execution level commitments, an effective contract is a necessity. This is especially true if performance standards are monitored on a routine basis, as it encourages the vendor to behave appropriately, and to adhere to the contract. It might also discourage the vendor from opportunistic behaviors during the contract such as unnecessary delays or reallocating resources to other projects. Failure to follow the contractual standards might put the vendor at risk of facing penalties for underperformance, or losing the client's business under serious conditions. Therefore, effective contractual governance acts as a robust safeguard mechanism for client firms in helping achieve projects under budget and on schedule.

Structural governance was found to positively influence only economic benefits. One of the primary issues in outsourcing is coordinating the project activities during the outsourcing arrangement. Often times, instead of investing in specific structural mechanisms, client firms might rely on existing IS hierarchical structures (i.e., treating outsourcing projects like internal IT projects) to accomplish the coordination activities. This finding implies that by creating specific oversight committees, holding regular meetings with vendor counterparts, utilizing techniques such as scorecards and matrices for tracking arrangement progress, and following escalation paths for resolving conflicts, client firms can be better able to manage their outsourcing projects. This improved coordination in project activities translates to cost savings achieved in the outsourcing arrangement.

Looking next at the informal mechanisms, extra-contractual governance mechanisms had no direct impact on outsourcing effectiveness, but relational governance was found to positively influence both functional benefits and execution-level benefits. Through social encounters and informal meetings, client firms can develop better rapport with the vendor. This can help them tap into networks of knowledge in the vendor, and provide access to IS resources. For instance, accessing IS resources in the vendor such as highly-skilled employees, or newer technologies that might be useful in the arrangement can be accomplished. This in turn can enhance the IS competence achieved from the outsourcing arrangement. The finding that relational governance also positively influences execution-level effectiveness is an especially interesting one, since it empirically validates the importance of informal governance mechanisms to not only have strategic-level impacts such as access to technological resources, but also in day-to-day working relationship to meeting the budget and schedule for the project. Relational governance fosters feelings of team-play and solidarity among client and vendor team members. Both client and vendor team members are motivated to work towards a common goal, in an environment of collaborative problem-solving. This positive work environment can in turn translate to projects getting completed on time and on budget.

We also postulated that two key elements of relational exchange, namely joint commitment and relationship trust, would mediate the relationship between governance mechanisms and outsourcing effectiveness. Our results indicate that relationship trust acts as a partial mediator for all four effectiveness dimensions. Interestingly, relationship trust was also the only factor impacting business benefits from the outsourcing arrangement. In addition, joint commitment was found to only influence effectiveness indirectly through relationship trust. This suggests that outsourcing contracts designed to enhance a company's ability to respond to new business demands require strong relationship trust, which in turn is influenced not only by the formal contract but also by other formal and informal mechanisms.

## Limitations and Implications

While the study has contributed to our understanding of IS outsourcing, this study has some inherent limitations. First, since the sample respondents were members of PMI-ISSIG, they may have self-selected to participate in the specific interest group, which might impart systematic biases in the population of interest in the study. Second, this study only focuses on application development outsourcing arrangements, and data is only collected from IS manager informants in client firms. This means that the results of the study may not be generalizable to other outsourced IS functions or contexts.

This study has important implications for researchers and practitioners alike. First and foremost, it extends prior research on governance mechanisms by providing two new dimensions of governance, namely structural governance and extra-contractual governance. It also empirically establishes that all four formal and informal mechanisms positively impact outsourcing outcomes, directly and/or indirectly, in application development outsourcing. Second, this study sheds light on the role of relational exchange -- specifically on joint commitment and relationship trust between clients and vendors. As antecedents to trust and commitment, formal and informal governance mechanisms can be used to effect changes in different aspects of the relational exchange. Finally, disaggregating the outsourcing effectiveness dimensions provides for a better understanding of the nature of the individual impacts on outsourcing outcomes.

The findings from this study also have direct implications for client firms engaged in application development outsourcing. Client firms can invest in developing and enhancing their governance capability along four distinct dimensions. They can also increase the effectiveness of their outsourcing arrangements by developing trusting relationships with their vendors. This implies that apart from due diligence during vendor selection phases, continuing to evaluate the client-vendor relationship and managing it effectively becomes important. Further, it implies that utilizing governance appropriately can not only generate effective outcomes but also help establish long-term vendor relationships. Disaggregating the outcome measures can also help a client firm understand the antecedent conditions affecting a particular outcome.

In addition to applying this framework to other types of outsourcing, more research is needed to establish the boundary conditions under which the different types of governance mechanisms could be effectively utilized. Different aspects of relational exchange, such as interdependence and consensus, can also be studied in relation to formal and informal governance mechanisms, as well as other antecedent conditions to relational exchanges. Further research is also needed to investigate the interactions between formal and informal governance mechanisms to contribute to the ongoing debate on complementary versus substitution effects.

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# Appendix – Table of Cross-loadings

| | *Contractual Governance* | *Structural Governance* | *Extra-Contractual Governance* | *Relational Governance* | *Joint Commitment* | *Relationship trust* | *Execution-level Effectiveness* | *Business Benefits* | *Functional Benefits* | *Economic Benefits* |
|---|---|---|---|---|---|---|---|---|---|---|
| CGov1 | **0.775** | 0.405 | 0.046 | 0.012 | 0.238 | 0.268 | 0.279 | 0.220 | 0.210 | 0.235 |
| CGov2 | **0.706** | 0.408 | 0.144 | 0.103 | 0.184 | 0.281 | 0.220 | 0.205 | 0.247 | 0.293 |
| CGov3 | **0.776** | 0.566 | 0.068 | 0.160 | 0.342 | 0.367 | 0.374 | 0.340 | 0.359 | 0.321 |
| CGov4 | **0.868** | 0.521 | 0.002 | 0.131 | 0.251 | 0.346 | 0.354 | 0.373 | 0.316 | 0.433 |
| SGov1 | 0.473 | **0.798** | 0.001 | 0.170 | 0.267 | 0.278 | 0.117 | 0.219 | 0.252 | 0.305 |
| SGov2 | 0.335 | **0.712** | 0.196 | 0.019 | 0.200 | 0.149 | 0.036 | 0.136 | 0.214 | 0.263 |
| SGov3 | 0.487 | **0.852** | 0.000 | 0.184 | 0.233 | 0.203 | 0.187 | 0.218 | 0.253 | 0.409 |
| SGov4 | 0.637 | **0.886** | 0.129 | 0.222 | 0.405 | 0.388 | 0.292 | 0.333 | 0.370 | 0.457 |
| ECGov1 | 0.090 | 0.026 | **0.896** | 0.241 | 0.069 | 0.301 | 0.094 | 0.081 | 0.191 | 0.159 |
| ECGov2 | -0.017 | 0.110 | **0.832** | 0.176 | 0.028 | 0.123 | 0.011 | -0.013 | 0.178 | 0.063 |
| ECGov3 | 0.083 | 0.137 | **0.807** | 0.348 | 0.116 | 0.192 | 0.125 | 0.078 | 0.119 | 0.156 |
| RGov1 | 0.183 | 0.221 | 0.225 | **0.804** | 0.209 | 0.333 | 0.364 | 0.286 | 0.383 | 0.319 |
| RGov2 | 0.019 | 0.065 | 0.228 | **0.736** | 0.072 | 0.311 | 0.263 | 0.213 | 0.274 | 0.311 |
| RGov3 | 0.091 | 0.159 | 0.186 | **0.772** | 0.165 | 0.311 | 0.257 | 0.280 | 0.335 | 0.264 |
| RGov4 | 0.109 | 0.148 | 0.307 | **0.702** | 0.129 | 0.213 | 0.224 | 0.227 | 0.320 | 0.183 |
| Commitment1 | 0.357 | 0.333 | 0.080 | 0.194 | **0.906** | 0.489 | 0.393 | 0.317 | 0.308 | 0.266 |
| Commitment2 | 0.240 | 0.313 | 0.080 | 0.160 | **0.897** | 0.523 | 0.346 | 0.289 | 0.279 | 0.328 |
| Trust1 | 0.287 | 0.223 | 0.187 | 0.296 | 0.402 | **0.758** | 0.429 | 0.388 | 0.508 | 0.414 |
| Trust2 | 0.353 | 0.245 | 0.262 | 0.344 | 0.532 | **0.884** | 0.586 | 0.576 | 0.523 | 0.482 |
| Trust3 | 0.400 | 0.333 | 0.230 | 0.405 | 0.546 | **0.930** | 0.587 | 0.604 | 0.552 | 0.538 |
| Trust4 | 0.350 | 0.344 | 0.225 | 0.324 | 0.447 | **0.874** | 0.506 | 0.509 | 0.505 | 0.499 |
| EffExec1 | 0.319 | 0.144 | 0.026 | 0.292 | 0.228 | 0.431 | **0.747** | 0.431 | 0.412 | 0.347 |
| EffExec2 | 0.307 | 0.079 | 0.119 | 0.323 | 0.256 | 0.455 | **0.781** | 0.527 | 0.487 | 0.252 |
| EffExec3 | 0.410 | 0.180 | 0.090 | 0.356 | 0.346 | 0.540 | **0.929** | 0.558 | 0.557 | 0.415 |
| EffExec4 | 0.381 | 0.208 | 0.102 | 0.373 | 0.396 | 0.606 | **0.985** | 0.595 | 0.612 | 0.457 |
| EffBus1 | 0.337 | 0.254 | 0.059 | 0.326 | 0.342 | 0.601 | 0.581 | **0.985** | 0.614 | 0.471 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| EffBus2 | 0.402 | 0.359 | 0.088 | 0.249 | 0.179 | 0.400 | 0.429 | **0.704** | 0.514 | 0.441 |
| EffFunc1 | 0.342 | 0.323 | 0.144 | 0.443 | 0.267 | 0.555 | 0.612 | 0.587 | **0.928** | 0.489 |
| EffFunc2 | 0.298 | 0.272 | 0.279 | 0.367 | 0.345 | 0.554 | 0.493 | 0.538 | **0.857** | 0.533 |
| EffFunc3 | 0.329 | 0.313 | 0.063 | 0.318 | 0.229 | 0.447 | 0.503 | 0.552 | **0.813** | 0.443 |
| EffEcon1 | 0.314 | 0.264 | 0.165 | 0.403 | 0.240 | 0.500 | 0.483 | 0.493 | 0.549 | **0.855** |
| EffEcon2 | 0.369 | 0.451 | 0.185 | 0.303 | 0.272 | 0.458 | 0.375 | 0.413 | 0.541 | **0.905** |
| EffEcon3 | 0.414 | 0.469 | 0.079 | 0.264 | 0.345 | 0.514 | 0.403 | 0.425 | 0.406 | **0.874** |